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ABSTRACT

A review of current research in writing to learn in the content areas provides a basis for focusing on instructional strategies, use of text structure frames, and metacognitive writing strategies. Students can use writing to comprehend to learn content area text in a variety of ways based on their particular learning objectives for that particular content area assignment or activity. By establishing a repertoire of strategies and techniques for incorporating writing into the reading/study process, students are able to increase the quality of their encoding, retrieval, and application of content area knowledge. Writing to learn can be applied in many situations including notetaking, writing paragraphs and longer passages, understanding diagrams and visual/graphic aides, summarizing, and recalling. (Thirty-eight references are attached.) (KEH)

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Writing to Comprehend in the Content Areas

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Writing to Comprehend in the Content Areas

Abstract

This presentation was designed to: elaborate on the current research and trends in writing to learn in the content areas, provide teachers with strategies for instructing students in content area writing, give examples of text structure frames that can be used as guides for writing in a variety of subject areas, and acquaint teachers with metacognitive writing strategies.

Background on Research and Trends

Recent research has shown: (a) better writers tend to be better readers (Flood & Lapp, 1987; Stotsky, 1984); (b) better writers tend to read more than poorer writers (Flood & Lapp, 1987; Stotsky, 1984); (c) reading experiences seem to be a consistent correlate of or influence on writing (Flood & Lapp, 1987; Stotsky, 1984); (d) reading and writing both develop and extend thinking skills (Applebee, 1977; Barr, D'Arcy, & Healy, 1982; Freedman Dyson, Flower, & Chafe, 1987; Fulweiler & Young, 1982; Newkirk & Atwell, 1982); (e) composing and comprehending reflect cognitive processes such as analysis, synthesis, comparing and contrasting, connecting, and reevaluating (Bereiter & Scardamalia, 1982; Flood & Lapp, 1987; Flower & Hayes, 1981; Freedman et al., 1987); Jensen, 1984; Scardamalia, 1981; Squire, 1983); (f) "good" reading and "effective" writing involve generative cognitive processes (Flood & Lapp, 1987;

Wittrock, 1983); and (g) readers and writers create meaning by building relationships between the text and what they know and believe (Flood & Lapp, 1987; Wittrock, 1983). In writing to learn, students must "...understand their purposes and receive [instructional] assistance in assuming control of the writing activity as a strategy for regulating their own meaning-making efforts" (Freedman et al., 1987, p. 34).

Some of the current trends discussed in the presentation included the following: (a) collaborating in research on the reading-writing connection by the Center of the Study of Reading and the Center for the Study of Writing, (b) writing at the prereading, during-reading, and postreading stages, (c) writing as a means of metacognitively explaining the student's reasoning before, during, and after reading, (d) writing for the purposes of summarizing and recalling, (e) using text frames as a springboard for writing, (f) writing across the curriculum, (g) using learning logs as a tool for enhancing comprehension and metacognitive strategies, and (g) changing the view of investigators from researchers of reading and/or writing to researchers of literacy.

Setting Purposes for Writing

An initial step in using writing to comprehend is setting purposes for writing. Writing purposes can be based on several learning objectives: to understand cause and

effect relationships, to compare and contrast, to explain and describe, to apply and reevaluate, to summarize, and to monitor one's own reasoning processes.

In addition, purposes for writing can also be based on text structure or on other imposed structures such as the structure imposed by the teacher or the structure imposed by the student who is studying the text. Although the author may have certain purposes for imposing a particular structure on the text, the teacher may also set different purposes for the students to use in analyzing and comprehending the content. In addition, students may have their own purposes for imposing a particular structure on the text.

For example, the author may present a timeline in a social studies text to indicate the order of particular historical events. On the other hand, the teacher may impose structure by having students complete graphic organizers, flowcharts, and cloze outlines which are used to assist the student in comprehending and recalling the ideas in the text. In a notetaking situation a student may decide to base the structure of his notes on a diagram or chart in the textbook chapter or he may generate his own diagram. As these examples indicate, the purposes for writing can also be based on structure imposed by the content, the teacher, and/or the student.

Practical Applications of Writing to Learn

Writing can be used to learn in several practical situations: in notetaking, in writing paragraphs and longer passages, in writing to understand diagrams and visual/graphic aids, in summarizing, and in recalling. Some strategies for using writing in notetaking include adaptations of SQ3R, the KWL strategy (Ogle, 1989), pattern guides, and flowcharts. During the Survey step of SQ3R students can record the subject of a particular chapter, the main ideas of each section, obvious supporting details as well as special terms in boldface and italics. Then the student can generate written questions by changing the headings and supporting ideas into who, what, when, where, why, or how questions that contain the special terms that were found. After reading the selection the student can more fully elaborate on the main ideas and supporting details and on the explanations of the terms, then can answer the questions that have been generated. Next the student can use this information in reviewing (Irwin & Baker, 1989, p. 236).

Ogle's KWL strategy asks the student to record information in three columns. In the K column the students write what they already know about the topic. The W column includes a list of what the students want to find out. In the L column the students record two kinds of information - what was learned and what still needs to be learned.

Pattern guides based on the text structure can be provided by the teacher. Students can complete the guides during and/or after reading. For example, the guide can list some of the causes and some of the effects of an event with the student providing the remaining causes and effects. Another technique for notetaking would be for the teacher to provide an outline of a flowchart which is completed by the students as they read.

Graphic organizers, maps, and outlines can be used for writing paragraphs and longer passages about the text. For example, the students could collaborate with the teacher in generating a graphic organizer or map about the topic. Then the students can write one or more paragraphs summarizing the ideas of the graphic organizer or map.

After reading the passage, collaboratively or individually, the students can revise and extend the graphic organizer or map. Based on these extensions and revisions the student can then write one or more paragraphs summarizing the ideas of the passage. After generating an outline or completing a cloze outline of a passage, students can use the outline to write a short summary of the text.

Another application of writing to learn involves having the students develop a written explanation or interpretation of a visual aid such as a diagram or graph. For example, students can discuss the purpose of the caption or title in their explanation. In addition, they can develop a written

evaluation by determining if the visual aids were redundant, complementary to the text, or supplementary to the text (Irwin & Baker, 1989, p. 267).

Summarizing can also be used as a technique for writing to learn. One strategy for teaching students to summarize is to provide rules for summarizing which are then utilized to model the process and to guide students' practice in order to develop their independence in applying the rules. Another technique is to simplify the task of summarizing by having students write a one-sentence summary of each paragraph of a passage, then combine these statements into an overall summary.

Having completed cloze outlines, pattern guides, graphic organizers, radial outlines, cloze maps, and cloze charts, students can use these devices as a framework in recalling and reviewing the content. Writing to learn can, therefore, be applied in many situations including notetaking, writing paragraphs and longer passages, understanding diagrams and visual/graphic aides, summarizing, and recalling.

Metacognitive Writing

Writing can also be used to express metacognitive awareness of one's own reasoning processes when reading and studying content area material. For example, in math, students can write an explanation of a particular mathematical process, can explain a mathematic term in their

own words, or can write an analysis of their own errors on homework and quizzes (McNeil, 1987).

Writing can be used to explain reasoning processes by having students write out what strategies they plan to use before reading, by recording how they are doing while they are reading, and by evaluating whether the plan was successful in helping them to comprehend successfully by using their pre-planned strategies. In addition, students can metacognitively evaluate their strategies used when reading by recording to what extent each strategy assisted in the comprehension process (Paris, 1989). Another technique for encouraging metacognitive thinking involves students writing learning logs. In the learning logs students record questions about concepts and reactions to what they read. They also record insights and understandings.

Conclusion

Students can use writing to comprehend and to learn content area text in a variety of ways based on their particular learning objectives for that particular content area assignment or activity. By establishing a repertoire of strategies and techniques for incorporating writing into the reading/study process students are able to increase the quality of their encoding, retrieval, and application of content area knowledge.

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